

Listing of Claims:

1 – 21. (Cancelled)

22. (New) A magnetic resonance imaging system, comprising:

a magnet assembly including a polarizing magnet, a gradient coil assembly, and an RF coil;

a pulse sequence server coupled to the RF coil and the gradient coil assembly to drive the gradient coils and to the RF coil to perform a magnetic resonance imaging scan; and

a workstation coupled to the pulse sequence server for downloading program elements to the pulse sequence server to drive the RF coil and the gradient coil assembly, the workstation including an object oriented graphical application development system for graphically developing a pulse description and a sequence description to define and control a waveform of control pulses provided on each of the gradient coils and the RF coil.

23. (New) The magnetic resonance imaging system as defined in claim 22, wherein the pulse description is at least one of a 2D spin echo, a 2D gradient-echo, a 2D fast spin-echo, and a 3D gradient-echo sequence.

24. (New) The magnetic resonance imaging system as defined in claim 22, wherein the sequence description defines an acquisition order to define at least one a slice and a k-space sampling order.

25. (New) The magnetic resonance imaging system as defined in claim 22, wherein the sequence description defines at least one of a 2D sequential, a 2D interleaved, a 3D sequential, a 3D elliptical centric, and a multi-slice CINE acquisition order.

26. (New) The magnetic resonance imaging system as defined in claim 22, wherein the workstation further provides an acquisition description, a data processing description, and a data store description.

27. (New) The magnetic resonance imaging system as defined in claim 22, wherein the workstation further comprises a waveform plotter for graphically displaying a pulse sequence.

28. (New) The magnetic resonance imaging system as defined in claim 22, wherein the pulse description and the sequence description are provided in an application controller downloadable to the pulse sequence server.

29. (New) The magnetic resonance imaging system as defined in claim 26, wherein the acquisition description includes a set of components for prescribing the real-time processing NMR signals.